



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

JUN 29 2007

AE-17J

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Brad Fedorchak
EH & S Director
The Dow Chemical Company
Michigan Operations
1261 Building
Midland, Michigan 48667

Dear Mr. Fedorchak:

This is to advise you that the United States Environmental Protection Agency has determined that The Dow Chemical Company's (Dow) facility in Midland, Michigan is in violation of the Clean Air Act (CAA). A list of the requirements violated is provided below. We are today issuing to you a Finding of Violation (FOV) for these violations.

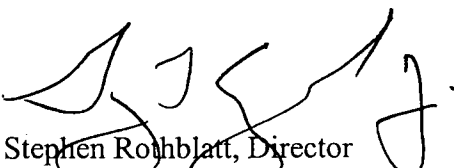
The CAA requires the development of standards for emissions of Hazardous Air Pollutants (HAP) to protect public health and welfare. To attain and maintain these standards, EPA promulgated Maximum Achievable Control Technology (MACT) standards set forth to address HAP emissions from various source categories. Of these MACT standards, Dow is in violation of the MACT standards that regulate HAP emissions from Pesticide Active Ingredient Production and Synthetic Organic Chemical Manufacturing Industry operations.

Section 113 of the CAA gives us several enforcement options to resolve these violations, including: issuing an administrative compliance order, issuing an administrative penalty order, bringing a judicial civil action, and bringing a judicial criminal action. The option we select, in part, depends on the efforts taken by Dow to correct the alleged violations and the timeframe in which you can demonstrate and maintain continuous compliance with the requirements cited in the FOV.

Before we decide which enforcement option is appropriate, Section 113 of the CAA provides you with the opportunity to request a conference with us about the violations alleged in the FOV. This conference will provide you a chance to present information on the identified violations, any efforts you have taken to comply, and the steps you will take to prevent future violations. Please plan for your facility's technical and management personnel to take part in these discussions. You may have an attorney represent and accompany you at this conference.

The EPA contacts in this matter are Constantinos Loukeris and Kathy Memmos. You may call them at (312) 353-6198 and (312) 353-4293 respectively if you wish to request a conference. EPA hopes that this FOV will encourage Dow's compliance with the requirements of the Clean Air Act.

Sincerely yours,

 *ALTING*
Stephen Rothblatt, Director
Air and Radiation Division

Enclosure

cc: Mark Reed, MDEQ
Linda Tekrony, NEIC

United States Environmental Protection Agency

IN THE MATTER OF:)	
The Dow Chemical Company)	FINDING OF VIOLATION
Midland, Michigan)	EPA-5-07-MI-9
Proceedings Pursuant to)	
the Clean Air Act,)	
42 U.S.C. §§ 7401 et seq.)	

FINDING OF VIOLATION

The Dow Chemical Company (you or Dow) owns and operates emission sources of Hazardous Air Pollutants (HAP) at its Midland, Michigan facility. This Finding of Violation (FOV) includes violations of the following Maximum Achievable Control Technology (MACT) standards in 40 C.F.R. Part 63:

1. Pesticide Active Ingredient Production (Subpart MMM)
2. Synthetic Organic Chemical Manufacturing Industry (Subparts F and G)

U.S. EPA is sending this FOV to address the alleged violations identified below. The MACT standards violated by Dow are concerned with controlling HAP emissions from various operations within a process. The underlying statutory requirements include provisions of the Clean Air Act (the Act or CAA).

Section 113 of the Act provides you with the opportunity to request a conference with us to discuss the violations alleged in the FOV. This conference will provide you a chance to present information on the identified violations, any efforts you have taken to comply, and the steps you will take to prevent future violations. Please plan for the Facility's technical and management personnel to take part in these discussions. You may have an attorney represent and accompany you at this conference.

Explanation of Violations

National Emission Standards for Organic Hazardous Air Pollutants

1. On April 22, 1994, EPA promulgated the following National Emission Standards for Hazardous Air Pollutants (NESHAP):

a. National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry (SOCMI) at 40 C.F.R. Part 63, Subpart F (59 Fed. Reg. 19454);

b. National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater at 40 C.F.R. Part 63, Subpart G (59 Fed. Reg. 19468); and

c. National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks at 40 C.F.R. Part 63, Subpart H (59 Fed. Reg. 19568).

These standards are collectively known as the Hazardous Organic NESHAP (HON).

Regulatory Requirements for the HON

2. The following HON requirements are relevant to this FOV:

a. The HON, at 40 C.F.R. § 63.107(a), states that the owner or operator shall use the criteria specified in this § 63.107 to determine whether there are any process vents associated with an air oxidation reactor, distillation unit, or reactor that is in a source subject to 40 C.F.R. Part 63, Subpart F. A process vent is the point of discharge to the atmosphere (or the point of entry into a control device, if any) of a gas stream if the gas stream has characteristics specified in paragraphs (b) through (h) of this section, or meets the criteria specified in paragraph (i) of this section.

b. The HON, at 40 C.F.R. § 63.115(a), states that for the purposes of determining vent stream flow rate, total organic HAP or total organic carbon concentration or Total Resource Effectiveness (TRE) index value, as specified under paragraph (b), (c), or (d) of this section, the sampling site shall be after the last recovery device (if any recovery devices are present) but prior to the inlet of any control device that is present and prior to release to the atmosphere.

c. The HON, at 40 C.F.R. § 63.115(d), states that to determine the TRE index value, the owner or operator shall conduct a TRE determination and calculate the TRE index value according to the procedures in paragraph (d)(1) or (d)(2) of this section and the TRE equation in paragraph (d)(3) of this section.

d. The HON, at 40 C.F.R. § 63.113(d), states that the owner operator of a Group 2 process vent having a flow rate greater than or equal to 0.005 standard cubic meter per minute, a HAP concentration greater than or equal to 50 parts per million by volume, and a TRE index value greater than 1.0 but less than or equal to 4.0 shall maintain a TRE index value greater than 1.0 and shall comply with the monitoring of recovery device parameters in § 63.114(b) or (c), the TRE index calculations of § 63.115, and the applicable reporting and recordkeeping provisions of § 63.117 and § 63.118.

e. The HON, at 40 C.F.R. § 63.114(b), states that each owner or operator of a process vent with a TRE index value greater than 1.0 as specified under § 63.113(a)(3) or § 63.113(d)

that uses one or more recovery devices shall install either an organic monitoring device equipped with a continuous recorder or the monitoring equipment specified in paragraph (b)(1), (b)(2), or (b)(3) of this section, depending on the type of recovery device used.

f. The HON, at 40 C.F.R. § 63.115(d)(1), states that to determine the TRE index value, the owner or operator shall conduct a TRE determination and calculate the TRE index value according to the procedures in paragraph (d)(1) or (d)(2) of this section and the TRE equation in paragraph (d)(3) of this section.

g. The HON, at 40 C.F.R. § 63.115(d)(1)(ii), states that if the TRE value calculated using such engineering assessment and the TRE equation in paragraph (d)(3) of this section is less than or equal to 4.0, then the owner or operator is required to perform the measurements specified in paragraph (d)(2) of this section for group determination or consider the process vent a Group 1 vent and comply with the emission reduction specified in § 63.113(a).

h. The HON, at 40 C.F.R. § 63.117(a)(2), states that each owner or operator subject to the control provisions for Group 1 process vents in § 63.113(a) or the provisions for Group 2 process vents with a TRE index value greater than 1.0 but less than or equal to 4.0 in § 63.113(d) shall:
(2) Include the data in paragraphs (a)(4) through (a)(8) of this section in the Notification of Compliance status report as specified in § 63.152(b).

i. The HON, at 40 C.F.R. § 63.132(c), provides instructions for determining whether a wastewater stream is Group 1 or Group 2 for Table 9 compounds. Total annual average concentration shall be determined according to the procedures specified in § 63.144(b). Annual average flow rate shall be determined according to the procedures specified in § 63.144(c).

j. The HON, at 40 C.F.R. § 63.144(b)(1), provides, among other things, that the total annual average concentration shall be determined for each wastewater stream either at the point of determination, or downstream of the point of determination with adjustment for concentration changes made according to paragraph (b)(6) of this section.

k. The HON, at 40 C.F.R. § 63.111, defines "point of determination" (POD) as each point where process wastewater exits the chemical manufacturing process unit. Note to definition for point of determination: The regulation allows determination of the characteristics of a wastewater stream (1) at the point of determination or (2) downstream of the point of determination if corrections are made for changes in flow rate and annual average concentration of Table 8 or Table 9 compounds as determined in § 63.144 of this subpart. Such changes include losses by air emissions; reduction of annual average concentration or changes in flow rate by mixing with other water or wastewater streams; and reduction in flow rate or annual average concentration by treating or otherwise handling the wastewater stream to remove or destroy hazardous air pollutants.

l. The HON, at 40 C.F.R. § 63.101, defines storage vessel as a tank or other vessel that is used to store organic liquids that contain one or more of the organic HAPs listed in Table 2 of

Subpart F and that has been assigned, according to the procedures in § 63.100(g) to a chemical manufacturing process unit that is subject to Subpart F.

m. The HON, at 40 C.F.R. § 63.100(g)(1), states that where a storage vessel is dedicated to a chemical manufacturing process unit, the storage vessel shall be considered part of the chemical manufacturing process unit.

n. The HON, at 40 C.F.R. § 63.151(j), states that the owner or operator of a source subject to Subpart G, for emission points that are not included in an emissions average, shall report to the Administrator under the circumstances described in paragraphs (j)(1), (j)(2), and (j)(3) of this section unless the relevant information has been included and submitted in an operating permit application or amendment, or as otherwise specified by the permitting authority. The information shall be submitted within 180 calendar days after the change is made or the information regarding the change is known to the source. The update may be submitted in the next Periodic Report if the change is made after the date the Notification of Compliance Status is due.

o. The HON, at 40 C.F.R. § 63.151(j)(3), states that whenever an emission point or a chemical manufacturing process unit is added to a source, written information specified under paragraphs (e)(1) through (e)(5) of this section, containing information on the new emission point(s) shall be submitted to the EPA regional office where the source is located.

p. The HON, at 40 C.F.R. § 63.151(e)(1), states that an owner or operator shall report a list designating each emission point complying with §§ 63.113 through 63.149 and whether each emission point is Group 1 or Group 2, as defined in § 63.111. For each process vent within the source, provide the information listed in paragraphs (e)(1)(i) through (iv) of this section.

q. The HON, at 40 C.F.R. § 63.100(l)(4), states that if an additional chemical manufacturing process unit is added to a plant site, or if an emission point is added to an existing chemical manufacturing process unit, or if another deliberate operational process change creating an additional Group 1 emission point(s) is made to an existing chemical manufacturing process unit, or if a surge control vessel or bottoms receiver becomes subject to §63.170 of subpart H, or if a compressor becomes subject to §63.164 of subpart H, and if the addition or change is not subject to the new source requirements as determined according to paragraph (l)(1) or (l)(2) of this section, the requirements in paragraphs (l)(4)(i) through (l)(4)(iii) of this section shall apply.

r. The HON, at 40 C.F.R. § 63.100(l)(4)(iii), states that the owner or operator of a chemical manufacturing process unit or emission point that is added to a plant site and is subject to the requirements for existing sources shall comply with the reporting and recordkeeping requirements of subparts F, G, and H that are applicable to existing sources, including, but not limited to, the reports listed in paragraphs (l)(4)(iii) (A) through (E) of this section. A change to an existing chemical manufacturing process unit shall be subject to the reporting requirements for existing sources, including but not limited to, the reports listed in paragraphs (l)(4)(iii)(A) through (E) of this section if the change meets the criteria specified in §63.118(g), (h), (i), or (j) of subpart G for process vents or the criteria in § 63.155(i) or (j) of subpart G.

s. The HON, at 40 C.F.R. § 63.100(l)(4)(iii)(B), states that the Notification of Compliance Status as required by § 63.152(b) of subpart G must be submitted for the emission points that were added or changed.

HON Violations

3. Based on a multimedia inspection conducted by EPA on April 18, 2006 through April 28, 2006 at Dow's facility, EPA has determined that Dow is in violation of the following HON requirements at its facility:

- a. Dow failed to use the criteria specified in 40 C.F.R. § 63.107 to identify the vent from the stripper in the monochloroacetic acid (MCAA) process as a process vent as required by 40 C.F.R. § 63.107(a) for the period from April 1997 through July 2006.
- b. By not identifying the vent from the stripper in the MCAA process as a process vent, Dow failed to determine the TRE index value using the sampling site after the last recovery device but prior to the inlet of any control device and prior to release to the atmosphere as required by 40 C.F.R. § 63.115(a) from April 1997 until July 2006.
- c. Based on data submitted during the inspection, the vent from the stripper in the MCAA process has a TRE value between 1 and 4 (Group 2 process vent), has a flow rate greater than 0.005 standard cubic meter per minute, and a HAP concentration greater than 50 ppm. From April 1997 until July 2006, Dow failed to comply with the monitoring of recovery device parameters in 40 C.F.R. § 63.114(b) or (c), the TRE index calculations of 40 C.F.R. § 63.115(d)(1)(ii), and the reporting and recordkeeping requirements of 40 C.F.R. 63.117(a) as required by 40 C.F.R. § 63.113(d) for the process vent from the stripper in the MCAA process.
- d. Dow has failed to determine the total annual average concentration for each wastewater stream either at the point of determination, or downstream of the point of determination with adjustment for concentration changes as required by 40 C.F.R. §§ 63.132(c) and 63.144(b)(1).
- e. Dow failed to identify the ethylene oxide sphere as a storage vessel dedicated to the HON oxide process unit for the period of January 2005 through March 2006 as required by 40 C.F.R. § 63.100(g)(1).
- f. Dow failed to update its HON Notification of Compliance Status or Periodic Report with the information listed at 40 C.F.R. § 63.151(e)(1) through (5) within 180 days after January 2005 when the ethylene oxide sphere became subject to regulation under 40 C.F.R. Part 63, Subpart G, as required by 40 C.F.R. § 63.151(j) and 63.100(l)(4)(iii).

National Emission Standards for Pesticide Active Ingredient Production

4. On June 23, 1999, EPA promulgated the National Emission Standards for Hazardous Air Pollutants for Pesticide Active Ingredient Production (PAI) at 40 C.F.R. Part 63, Subpart MMM (64 Fed. Reg. 33589).

Regulatory Requirements for the PAI

5. The following PAI requirements are relevant to this FOV:

a. The PAI, at 40 C.F.R. § 63.1362(b)(2)(iii), states that excluding process vents that are subject to the requirements in paragraph (b)(2)(ii) of this section, uncontrolled organic HAP emissions from the sum of all process vents within a process shall be reduced by 90 percent or greater by weight.

b. The PAI, at 40 C.F.R. § 63.1365(a), states that except as specified in paragraph (a)(4) of this section, the procedures specified in paragraphs (c), (d), (e), (f), and (g) of this section are required to demonstrate initial compliance with § 63.1362(b), (c), (d), (f), and (g), respectively.

c. The PAI, at 40 C.F.R. § 63.1365(c)(1)(iii), states that initial compliance with the organic HAP percent reduction requirements specified in § 63.1362(b)(2)(ii), (iii), and (b)(4)(ii) is demonstrated by determining controlled HAP emissions using the procedures described in paragraph (c)(3) of this section, determining uncontrolled HAP emissions using the procedures described in paragraph (c)(2) of this section, and calculating the applicable percent reduction.

d. The PAI, at 40 C.F.R. § 63.1365(b)(11), states that for testing of emissions on equipment where the flow of gaseous emissions is intermittent (batch operations) shall be conducted at absolute peak-case conditions or hypothetical peak-case conditions, as specified in paragraphs (b)(11)(i) and (ii) of this section, respectively.

e. The PAI, at 40 C.F.R. § 63.1365(b)(11)(ii), states that hypothetical peak-case conditions are simulated test conditions that, at a minimum, contain the highest total average hourly HAP load of emissions that would be predicted to be vented to the control device from the emissions profile described in either paragraph (b)(11)(iii)(B) or (C) of this section.

f. The PAI, at 40 C.F.R. § 63.1365(b)(11)(iii)(B), states that the emission profile must consist of emissions that meet or exceed the highest hourly HAP load that would be expected under actual processing conditions. The profile shall describe equipment configurations used to generate the emission events, volatility of materials processed in the equipment, and the rationale used to identify and characterize the emission events.

g. The PAI, at 40 C.F.R. § 63.1365(b)(11)(iii)(C), states that the emission profile shall consider the capture and control system limitations and the highest hourly emissions that can be routed to the control device, based on maximum flow rate and concentrations possible because of limitations on conveyance and control equipment (e.g., fans, LEL alarms and safety bypasses).

h. The PAI, at 40 C.F.R. § 63.1365(b)(11)(iv), states that three runs, at a minimum of 1 hour each, are required for performance testing. When complying with a percent reduction standard, each test run may be a maximum of either 24 hours or the duration of the longest batch controlled by the control device, whichever is shorter, and each run must include the same absolute or hypothetical peak-case conditions, as defined in paragraph (b)(11)(i) or (ii) of this section. When complying with an outlet concentration limit, each run must include the same absolute or hypothetical peak-case conditions, as defined in paragraph (b)(11)(i) or (ii) of this section, and the duration of each run may not exceed the duration of the applicable peak-case condition.

i. The PAI, at 40 C.F.R. § 63.1365(c)(2)(i)(D), states that emissions caused by heating the contents of a vessel to a temperature less than the boiling point shall be calculated using the procedures in either paragraph (c)(2)(i)(D)(1), (2), or (4) of this section, as appropriate. If the contents of a vessel are heated to the boiling point, emissions while boiling are assumed to be zero if the owner or operator is complying with the provisions in paragraph (d)(2)(i)(C)(3) of this section.

j. The PAI, at 40 C.F.R. § 63.1365(c)(2)(i)(D)(3), states that while boiling, the vessel must be operated with a properly operated process condenser. An initial demonstration that a process condenser is properly operated is required for vessels that operate process condensers without secondary condensers that are air pollution control devices. The owner or operator must either measure the condenser exhaust gas temperature and show it is less than the boiling point of the substance(s) in the vessel, or perform a material balance around the vessel and condenser to show that at least 99 percent of the material vaporized while boiling is condensed. Uncontrolled emissions are assumed to be zero under these conditions. The initial demonstration shall be conducted for all appropriate operating scenarios and documented in the Notification of Compliance Status report as specified in § 63.1368(f).

k. The PAI, at 40 C.F.R. § 63.1368(f), states that the notification of Compliance Status report required under § 63.9(h) shall be submitted no later than 150 calendar days after the compliance date and shall include the information specified in paragraphs (f)(1) through (7) of this section.

l. The PAI, at 40 C.F.R. § 63.1368(g), states that the owner or operator shall prepare Periodic Reports in accordance with paragraphs (g)(1) and (2) of this section and submit them to the Administrator.

m. The PAI, at 40 C.F.R. § 63.1367(b)(6), states that the owner or operator of an affected source that complies with the standards for process vents, storage tanks, and wastewater systems shall maintain up-to-date, readily accessible records of the information specified in paragraphs (b)(6)(i) through (vii) of this section to document that HAP emissions or HAP loadings (for wastewater) are below the limits specified in § 63.1362.

n. The PAI, at 40 C.F.R. § 63.1367(b)(6)(ii), states that the owner or operator shall maintain up-to-date, readily accessible records for the wastewater concentrations and flow rates per POD and process.

o. The PAI, at 40 C.F.R. § 63.1362(d), states that the owner or operator of each affected source shall comply with the requirements of §§ 63.132 through 63.147, with the differences noted in paragraphs (d)(1) through (16) of this section for the purposes of this subpart.

p. The PAI, at 40 C.F.R. § 63.1361, defines “point of determination” (POD) as each point where a wastewater stream exits the PAI process unit. Note to definition of “point of determination”: The regulation allows determination of the characteristics of a wastewater stream: at the point of determination; or downstream of the point of determination if corrections are made for changes in flow rate and annual average concentration of Table 9 compounds as determined in § 63.144 of subpart G of this part. Such changes include: losses by air emissions, reduction of annual average concentration or changes in flow rate by mixing with other water or wastewater streams, and reduction in flow rate or annual average concentration by treating or otherwise handling the wastewater stream to remove or destroy HAP.

q. The PAI, at 40 C.F.R. § 63.1361, defines a “process condenser” as a condenser whose primary purpose is to recover material as an integral part of a unit operation.

r. The PAI, at 40 C.F.R. § 63.1361, defines “air pollution control device or control device” as equipment installed on a process vent, storage vessel, wastewater treatment exhaust stack, or combination thereof that reduces the mass of HAP emitted to the air. The equipment may consist of an individual device or a series of devices. Examples include incinerators, carbon adsorption units, condensers, flares, boilers, process heaters, and gas absorbers. Process condensers are not considered air pollution control devices or control devices.

s. The PAI, at 40 C.F.R. § 63.1365(a)(1), states that to demonstrate that a control device meets the required control efficiency, a design evaluation must address the composition and HAP concentration of the vent stream entering the control device. A design evaluation also must address other vent stream characteristics and control device operating parameters as specified in any one of paragraphs (a)(1)(i) through (vii) of this section, depending on the type of control device that is used.

t. The PAI, at 40 C.F.R. § 63.1365(a)(1)(iii), states that for a condenser, the design evaluation must consider the vent stream flow rate, relative humidity, and temperature, and must establish the maximum temperature of the condenser exhaust vent stream and the corresponding outlet organic HAP compound concentration level or emission rate for which the required reduction is achieved.

u. The PAI, at 40 C.F.R. § 63.1366(a), states that to provide evidence of continued compliance with the standard, the owner or operator of any existing or new affected source shall install, operate, and maintain monitoring devices as specified in this section.

v. The PAI, at 40 C.F.R. § 63.1366(b), states that except as specified in paragraph (b)(1)(i) of this section, for each control device, the owner or operator shall install and operate monitoring devices and operate within the established parameter levels to ensure continued compliance with the standard. Monitoring parameters are specified for control scenarios in paragraphs (b)(1)(ii) through (xii) of this section, and are summarized in Table 3 of Subpart MMM.

w. The PAI, at 40 C.F.R. § 63.1366(b)(iii), states that for each condenser, the owner or operator shall establish the maximum condenser outlet gas temperature as a site-specific operating parameter which must be measured and recorded at least once every 15 minutes during the period in which the condenser is controlling HAP from an emission stream as required by the standards in § 63.1362.

x. The HON, at 40 C.F.R. § 63.132(b)(2), states that the owner or operator shall determine whether each wastewater stream requires control for Table 9 compounds by complying with the requirements in either paragraph (b)(2)(i) or (b)(2)(ii) of this section, and comply with the requirements in paragraph (b)(2)(iii) of this section.

y. The HON, at 40 C.F.R. § 63.132(b)(2)(i) and 40 C.F.R. § 63.132(b)(2)(ii), states that the owner or operator shall comply with paragraph (c) of this section, determining whether the wastewater stream is Group 1 or Group 2 for Table 9 compounds; or comply with paragraph (e) of this section, designating the wastewater stream as a Group 1 wastewater stream.

z. The PAI, at 40 C.F.R. § 63.1360 (i)(5), states that after the compliance dates specified in § 63.1364, the owner or operator of an affected wastewater stream that is also subject to provisions in 40 CFR parts 260 through 272 shall comply with the more stringent control requirements (e.g., waste management units, numerical treatment standards, etc.) and the more stringent testing, monitoring, recordkeeping, and reporting requirements that overlap between the provisions of this subpart and the provisions of 40 CFR parts 260 through 272. The owner or operator shall keep a record of the information used to determine which requirements were the most stringent and shall submit this information if requested by the Administrator.

aa The HON, at 40 C.F.R. § 63.138(e)(2), states that for wastewater streams that are Group 1 for Table 8 and/or Table 9 compounds, the owner or operator shall reduce, by removal or destruction, the mass flow rate by at least the fraction removal (Fr) values specified in Table 9 of this subpart. The Fr value for methanol is 0.31 as specified in Table 9.

bb. HON, at 40 C.F.R. § 63.138(j), states that except as provided in paragraph (j)(3) or (h) of this section, the owner or operator shall demonstrate by the procedures in either paragraph (j)(1) or (j)(2) of this section that each nonbiological treatment process used to comply with paragraphs (b)(1), (c)(1), (e), and/or (f) of this section achieves the conditions specified for compliance.

cc. The HON, at 40 C.F.R. § 63.132(b)(3)(i), states that the owner or operator must comply with the applicable requirements for wastewater tanks, surface impoundments,

containers, individual drain systems, and oil/water separators specified in the requirements of § 63.133 through § 63.137 of this subpart, except as provided in paragraphs (b)(3)(i)(A) and (b)(3)(i)(B) of this section and § 63.138(a)(3).

PAI Violations

6. Based on multimedia inspections conducted by EPA on April 18, 2006 through April 28, 2006 and July 25, 2006 through August 2, 2006 at Dow's facility, EPA has determined that Dow is in violation of the following PAI requirements at its facility:

- a. Dow has failed to demonstrate initial compliance with the process vent standards at 40 C.F.R. § 63.1362(b)(2)(iii) for the seven process vents that exhaust directly to the scrubber in the 2,4 Dichlorophenoxyacetic acid (2,4-D) process when the incinerator is inoperable and Condenser E-1002 is used as a control device as required by 40 C.F.R. §§ 63.1365(a) and 63.1365(c)(1)(iii).
- b. In the Notification of Compliance Status for the Garlon 3A process submitted by Dow in August 2006, Dow failed to describe either the equipment configurations used to generate the emission events and the volatility of materials processed in the equipment as required for an emission profile by equipment at 40 C.F.R. § 63.1365(b)(11)(iii)(B) or to consider the capture and control system limitations as required for an emission profile by capture and control device limitations at 40 C.F.R. § 63.1365(b)(11)(iii)(C).
- c. Dow has failed to conduct a valid performance test for the Garlon 3A process as required by 40 C.F.R. §§ 63.1365(b)(11) and 63.1365(b)(11)(iv). More specifically, Dow failed to include the information required in an emission profile by 40 C.F.R. § 63.1365(b)(11)(ii) and to perform three test runs as required by 40 C.F.R. § 63.1365(b)(11)(iv).
- d. Dow has failed to perform an initial compliance demonstration on the process condensers listed below for the Garlon 3A process as required by 40 C.F.R. § 63.1365(c)(2)(i)(D)(3).
 - i.) Process condenser identifications are as follows: E-362, E-361A and E-361B.
- e. Dow has failed to comply with the reporting and recordkeeping requirements for the Group 1 wastewater stream that exits V-362 in the Garlon 3A process including the Notification of Compliance Status report required at 40 C.F.R. § 63.1368(f), the Periodic Reports required at 40 C.F.R. § 63.1368 (g), and the recordkeeping requirements for wastewater at 40 C.F.R. § 63.1367(b)(6)(ii).
- f. Dow analyzed the wastewater stream characteristics of the stream leaving tank V-361 in the Garlon 3A process downstream of the "point of determination" as defined at

40 C.F.R. § 63.1361. Dow has failed to make corrections to the total annual average concentration for Table 9 compounds from the wastewater stream leaving tank V-361 as required at 40 C.F.R. §§ 63.1362(d), 63.132(c) and 63.144(b)(1) where the concentration is determined downstream of the POD.

- g. Dow failed to identify the E-355 condenser in the Penoxsulam process as a “control device” as defined at 40 C.F.R. § 63.1361. Consequently, Dow has failed to conduct the design evaluation for a condenser that functions as a control device as required at 40 C.F.R. § 63.1365(a)(1) and § 63.1365(a)(1)(iii) and to install, operate and maintain monitoring devices as specified at 40 C.F.R. § 63.1366(a), § 63.1366(b), and § 63.1366(b)(b)(iii) for the E-355 condenser.
- h. From October 2004 through at least November 10, 2006, Dow failed to determine whether each wastewater stream in the Penoxsulam process listed below requires control for Table 9 compounds by either determining whether the wastewater stream is Group 1 or Group 2 for Table 9 compounds or designating the wastewater stream as a Group 1 wastewater stream as required at 40 C.F.R. §§ 63.1362(d), 63.132(b)(2), 63.132(b)(2)(i), and 63.132(b)(2)(ii). For any wastewater streams that are Group 1 for Table 9 compounds, Dow is required to comply with the applicable requirements specified at 40 C.F.R. 63. § 132(b)(3)(i) for wastewater tanks, surface impoundments, containers, individual drain systems, and oil/water separators.
 - i.) Wastewater streams are as follows: aqueous layer from V-226; liquid from E-350, E-355, and E-230; the mother liquor exiting the pressure filter; drained liquid from V-315 scrubber pot, V-345, V-360 seal pot, and V-325 seal pot.
- i. Dow has failed to perform an initial compliance demonstration on the process condensers listed below for the Flumetsulam, Chloransulam, and Diclosulam processes as required by 40 C.F.R. § 63.1365(c)(2)(i)(D)(3).
 - i.) Process condenser identifications are as follows: E-4305, E-5538, E-4557, E-4555, and E-4605.
- j. Dow failed to identify the E-4555 and E-4557 condensers in the Flumetsulam process as “control devices” as defined at 40 C.F.R. § 63.1361. Consequently, Dow has failed to conduct the design evaluation for a condenser that functions as a control device as required at 40 C.F.R. § 63.1365(a)(1) and 63.1365(a)(1)(iii) and to install, operate and maintain monitoring devices as specified at 40 C.F.R. § 63.1366(a), § 63.1366(b), and § 63.1366(b)(b)(iii) for the E-4555 and E-4557 condensers.
- k. Dow failed to identify the appropriate “points of determination” (POD) for wastewater streams generated from the Flumetsulam, Chloransulam, and Diclosulam processes as defined at 40 C.F.R. § 63.1361. In addition, Dow has failed to determine if any of the wastewater streams entering R-4705 requires control for Table 9

compounds by determining whether the wastewater stream is Group 1 or Group 2 for Table 9 compounds or designating the wastewater stream as a Group 1 wastewater stream as required at 40 C.F.R. §§ 63.1362(d), 63.132(b)(2), 63.132(b)(2)(i), and § 63.132(b)(2)(ii). For any wastewater streams that are Group 1 for Table 9 compounds, Dow is required to comply with the applicable requirements specified at 40 C.F.R. 63. § 132(b)(3)(i) for wastewater tanks, surface impoundments, containers, individual drain systems, and oil/water separators.

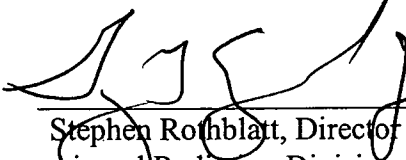
1. Since the V-4615 wastewater tank in the Flumetsulam process receives, manages, or treats a residual removed from a Group 1 wastewater stream, V-4615 is subject to the requirements for wastewater tanks specified at 40 C.F.R. § 63.133(a). Dow has also identified V-4615 as a hazardous waste tank regulated under the Resource Conservation and Recovery Act (RCRA). Dow has failed to keep a record of the information used to determine whether the requirements of RCRA or the requirements of the PAI MACT are more stringent as required by 40 C.F.R. § 63.1360(i)(5).
- m. From December 27, 2005 through April 13, 2006, while Dow was manufacturing Chloransulam and Diclosulam, there were sixteen times (16) when Dow failed to reduce the mass flow rate of methanol from the T-4605 brine stripper by at least 31 percent as required by Table 9 of 40 C.F.R. Part 63, Subpart G, and 40 C.F.R. § 63.138(e)(2).

Environmental Impact of Violations

1. Violation of the above MACT standards increases public exposure to Hazardous Air Pollutant (HAP) emissions, including, but not limited to, ethyl chloride, toluene, ethylene, perchloroethylene, methanol, and hydrogen chloride. Organic HAPs are the major precursors in the formation of atmospheric level ozone, a photochemical oxidant associated with a number of detrimental health and environmental effects. In the presence of sunlight, and influenced by a variety of meteorological conditions, HAPs react with oxygen in the air to produce ozone.

Ozone is one of six listed criteria pollutants targeted for control under the Clean Air Act by the establishment of a National Ambient Air Quality Standard (NAAQS). Its human health effects are largely associated with decreased respiratory function, even among healthy individuals. Accompanying symptoms from exposure may include sore throat, tightness or pain on breathing, coughing and headache. Aside from its human health impact, ozone can prove harmful to crops and vegetation and can cause materials such as rubber to prematurely degrade.

6/29/07
Date


Stephen Rothblatt, Director
Air and Radiation Division

CERTIFICATE OF MAILING

I, Shanee Rucker, certify that I sent a Notice and Finding of Violation, No. EPA-5-07-MI-9 , by Certified Mail, Return Receipt Requested, to:

Brad Fedorchak, EH&S Director
Dow Chemical Company
Michigan Operations
1261 Building
Midland, Michigan 48667

I also certify that I sent copies of the Finding of Violation and Notice of Violation by first class mail to:

Mark Reed, District Supervisor
Michigan Department of Environmental Quality – Air Quality Division
Saginaw Bay District Office
503 N. Euclid Avenue
Bay City, Michigan 48706-2965

Linda Tekrony
National Enforcement Investigation Center
Building 25 E
Denver Federal Center
Denver, Colorado 80225

on the ¹²~~29~~ day of June, 2007.



Shanee Rucker
Administrative Program Assistant
AECA MI/WI

CERTIFIED MAIL RECEIPT NUMBER: 7001 0320 0006 0198 9390.